

USSR

BABUSHKIN, V., Aviatsiya i Kosmonavtika, No 2, 1972, p 40

fighter-planes. Therefore it has become necessary to employ additional technical equipment. The most effective of these is the anti-g suit. It helps the pilot endure accelerations more easily with respect to both the intensity and the duration of their effect. This in turn makes it possible to pilot an aircraft at higher speeds and do turns of a smaller radius. A time advantage while executing flight formations is an important factor which contributes to an attainment of victory in air battle.

But one must not forget that only in the complex application of all protective means is it possible to attain the necessary result -- to increase the resistance of the flier to the effects of acceleration.

6/6

- 42 -

1/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

TITLE--THERMODYNAMIC STUDY OF THE SOLIDIFICATION AND CORROSION OF ACID
RESISTANT CEMENTS AND CONCRETES UNDER THE INFLUENCE OF ACID MEDIA -U-

AUTHOR--SOKOL, YE.YA., BABUSHKIN, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 262-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CORROSION RESISTANCE, CEMENT, CONCRETE, GEL, HYDROLYSIS,
SILICA, HYDROGEN ION CONCENTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/0463

STEP NO--UR/0030/70/043/002/0262/0267

CIRC ACCESSION NO--AP0104076

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104076

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE CORROSION RESISTANCE OF CEMENTS AND CONCRETES BASED ON WATER GLASS AND NA SUB2 SIF SUB6 DEPENDS ON THE DEGREE OF POLYMERIZATION OF THE GEL THAT IN ITS TURN DEPENDS ON THE PH VALUE OF THE MEDIUM AND THE RATE OF HYDROLYSIS OF NA SUB2 SIF SUB6. THE FIELDS OF STABILITY OF H SUB2 SIO SUB4, H SUB2 SIO SUB3, AND BETA, SIO SUB2 WERE DETERMINED. AT PH SMALLER THAN 8, H SUB4 SIO SUB4 WAS IN AN UNDISSOCIATED STATE, AND AT PH GREATER THAN 12 WAS PRESENT AS SIO SUB4 PRIME4 NEGATIVE. AT PH 8 TO 11.71, H SUB4 SIO SUB4 WAS IN EQUIL. WITH H SUB3 SIO SUB4 PRIME NEGATIVE, AND AT PH 11.71 TO 12 WITH H SUB2 SIO SUB4 PRIME2 NEGATIVE. AT PH SMALLER THAN 8, H SUB2 SIO SUB3 WAS IN AN UNDISSOCIATED STATE, AT PH GREATER THAN 12.18 WAS IN EQUIL. WITH SIO SUB3 PRIME2 NEGATIVE, AND AT PH 8 TO 12.18 WITH HSIO SUB3 PRIME NEGATIVE. AT PH SMALLER THAN 9, BETA, SIO SUB2 WAS STABLE, AT PH 9 TO 11.71 WAS IN EQUIL. WITH H SUB3 SIO SUB4 PRIME NEGATIVE, AND AT PH 11.71 TO 12.0 WITH H SUB2 SIO SUB4 PRIME2 NEGATIVE. AT PH GREATER THAN 12, BETA, SIO SUB2 WAS IN EQUIL. WITH HSIO SUB3 PRIME NEGATIVE, AND SIO SUB3 PRIME2 NEGATIVE. TABLES SHOWING THE DEPENDENCE BETWEEN THE CONCENTRATION OF IONS AND THE PH VALUE IN EQUIL. CONDITIONS ARE GIVEN.

UNCLASSIFIED

Acc. Nr:

AP0040951

Abstracting Service:
CHEMICAL ABST.

Ref. Code:

4R0171

B

84770y Exchange narrowing of paramagnetic resonance lines in ferromagnetic compounds of europium(II). Samokhvalov, A. A.; Babushkin, V. S. (Inst. Fiz. Metal., Sverdlovsk, USSR). *Fiz. Tverd. Tela* 1970, 12(1), 13-15 (Russ). Results are given of the measurements of the width of EPR line in ferromagnetic compds. of divalent Eu, namely: EuS, EuO, FeO, EuO, and Eu_{0.96}Gd_{0.04}O at 80-500°K. By using EuO as an example, the effect is discussed of linear thermal expansion on the width of EPR line. In terms of the Anderson-Weiss theory and the theory of mol. field, a calcul. was carried out of the values of energies of exchange interaction with the closest and the next to the closest neighbors for the width of exchange-narrowed line of paramagnetic resonance in the above compds. A. Libackyj

REEL/FRAME
13750690

18

USSR

UDC: 535.231.62-1

BABUSHKIN, V. V., VISHNEVSKIY, A. K., DOLGIKH, I. I., LIBOVA, I. V., All-
-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev

"Investigation of the Energy and Spectral Sensitivity of Receivers in the
Near-Infrared Spectral Region"

Leningrad, Issledovaniya v Oblasti Opticheskikh i Svetovykh Izmereniy,
Trudy Metrologicheskikh Institutov SSSR, No 114(174), 1970, pp 141-146

Abstract: The paper presents the results of an investigation of the
energy and spectral sensitivity of BSG-2 and BKM-5 semiconductor bolometers
and the type BKK-3 metallic bolometers. The measurements were made in
the spectral region from 1 to 8 microns. The measurement procedure and
equipment are described. Four figures, two bibliographic references.

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Plant Pathology

USSR

UDC 581.4:582.288.42

~~BABUSHKINA, I. N.~~ Phycology Laboratory, Botanical Institute, Academy of Sciences USSR

"Variability of the Agents of Verticillium Wilt Under the Influence of Rhizosphere Fungi"

Leningrad, Mikologiya i Fitopatologiya, No 4, 1971, pp 345-351

Abstract: Of 292 strains of rhizosphere fungi tested, 72 were antagonistic to the agents of Verticillium wilt, Verticillium dahliae Kleb. (Strains 65 and 141) and Verticillium tricorpus Isaac. Some of the antagonists only inhibited the growth or altered the morphological and cultural characteristics of V dahliae and V. tricorpus, and the changes varied with the strain of pathogen and species of antagonist. For example, under the influence of Aspergillus alliaceus, Fusarium sporotrichiella var. sporotrichioides and Trichoderma lignorum, strain 65 of V dahliae which does not have resting structures, was able to form microsclerotium in substrate mycelium. Strain 141, which ordinarily forms microsclerotium only in substrate mycelium, was able to form microsclerotium in aerial mycelium also after exposure to Aspergillus oryzae. Aspergillus sydowii and A. ustus caused V. tricorpus to form chlamydospores on the phialides of the conidiophores. The mutations in the V. dahliae and V. tricorpus strains were hereditary.

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USSR

UDC 613.633+613.648]:666.76

LEMYASEV, M. F., BABUSHKINA, L. G., SEMENOV, G. V., (Deceased), KATSNEL'SON, B. A., KARAGODINA, I. V., TREYGER, S. I., and BELOBRAGINA, G. V., Scientific Research Institute of Hygiene and Occupational Diseases, Medical Institute, Oblast Sanitary-Epidemiological Station, Sverdlovsk

"Dust and Radiation Factors in the Production of Fireproof Articles From Zirconium Dioxide"

Moscow, Gigiyena i Sanitariya, No 10, Oct 1970, pp 38-41

Abstract: Tests with rats confirmed that the fibrogenic character of "pure" ZrO_2 dust is lower than that of the commercial product. This difference is attributed to the admixture of radioactive elements in the dust of the insoluble commercial ZrO_2 , which is used as raw material in the production of various fireproof objects, so that the fibrogenic action of this dust on the lungs is intensified. On the basis of data from this experiment and from studies in an industrial environment, it is recommended that maximum permissible concentrations of ZrO_2 dust and similar substances be established which taken into account the radioactive contamination present in these dusts.

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USSR

UDC 615.272.2:547.821.4.03:616.24-003.662-092.9

KATSNEL'SON, B. A., BABUSHKINA, L. G., ARONOVA, G. V., STARIKOVA, S. K.,
POCHASHEV, Ye. N., SHNAYDMAN, I. Ya., POSTOVSKIY, S. N., BORODULINA, S. N.,
and MALYARENKO, I. S., Sverdlovsk Institute of Industrial Hygiene and
Occupational Diseases, and Karaganda Institute of Industrial Hygiene and
Occupational Diseases and Ural Polytechnic Institute, Sverdlovsk

"Experimental Study of the Protective Effect of Polyvinylpyridine-N-Oxide
Against Silicosis"

Moscow, Gigiyena i Sanitariya, No 10, Oct 1970, pp 20-23

Abstract: A polyvinylpyridine-N-oxide polymer with a molecular weight of
117,500 was prepared, and its activity and effectiveness against silicosis
were compared with those of a previously prepared polymer of molecular
weight 40,000 and the P-204 polymer (Bayer, West Germany). It was found
that the new polymer was more effective than either of the other two
polymers against intratracheal dust (cristobalite) introduced in rats
for a period of 3-1/2 months. Development of silicosis was sharply re-
duced, as indicated by the decrease in size and number of cellular-dust
lumps and the reduction in proliferating reactions, and sclerotic shifts.
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KATSNEL'SON, B. A., et al, Gigiyena i Sanitariya, No 10, Oct 1970, pp 20-23

Dust elimination from the lungs and inhibition of the silicotic fibrogenesis process are associated with an increase in the resistance of the alveolar macrophages to the cytopathic effect of silicon. It was found that this process was accompanied by a decrease in the diffusion of a lysosome hydrolytic enzyme (acid phosphatase) into the cytoplasm of macrophages due to the effect of silicon, a fact which is attributed to the anti-silicosis effect of the new polyvinylpyridine-N-oxide polymer.

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Acc. Nr: **B**
PP0036571

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Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye
Zabolevaniya, 1970, Nr 2, PP 21-24

HYGIENIC, CLINICAL AND EXPERIMENTAL DATA CHARACTERIZING
MAGNESITE PNEUMOCONIOSIS

Zeleneva, N. I.; Makarov, Yu. V.; Starikova, S. K.;
Babushkina, L. G.; Yarosh, Z. P.; Ragol'skaya, F. S.

Summary

An examination of workers of a magnesite plant with long service record exposed to highly concentrated dust of raw or roasted (burnt) magnesite containing about 1-3% of total SiO_2 revealed 13 cases of pneumoconiosis, chiefly among workers exposed to the effect of roasted magnesite. Roentgeno-morphologically magnesite pneumoconiosis is characterized by diffuse pneumofibrosis with isolated micromaculous elements. Clinical manifestations and periods marking development of the disease justify including it in the group of the so-called "benign" pneumoconiosis. Not infrequently it is associated with symptoms of chronic bronchitis and pulmonary emphysema. Experiments on animals demonstrated magnesite dust to have had an insignificant fibrinogenicity, but confirmed its possible accumulation in the lungs, following its long-term inspiration. By comparison with the raw magnesite dust that of the roasted magnesite has somewhat greater pronounced fibrinogenous properties. |

REEL/FRAME
19721428

6 D. 71.

1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SYNTHESIS OF THE VIRUS SPECIFIC PROTEINS OF A CONDITIONALLY LETHAL
MUTANT OF POLIOVIRUS UNDER NONPERMISSIVE CONDITIONS -U-
AUTHOR--GENDON, YU.Z., BABUSHKINA, L.M., MIKHEYEVA, A.V., SOLOVYEV, G.YA.
COUNTRY OF INFO--USSR *B*
SOURCE--VIRIOLOGY 1970, 40(3), 595-604
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROTEIN SYNTHESIS, POLIOMYELITIS, RNA, DNA, VIRUS, MUTANT

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1659 STEP NO--US/0000/70/040/003/0595/0604
CIRC ACCESSION NO--AP0101714
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101714

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FUNCTION OF THE PARENTAL RNA OF A TEMP. SENSITIVE (TS) MUTANT OF POLIOVIRUS WAS STUDIED. NONE OF THE METHODS OF INVESTIGATION USED UNDER NONPERMISSIVE CONDITIONS OF THE EXPTS. COULD DEMONSTRATE SYNTHESIS OF VIRAL RNA OR FUNCTIONALLY ACTIVE RNA POLYMERASE. INHIBITION OF SYNTHESIS OF CELLULAR MACROMOLS. (RNA, DNA, AND PROTEINS) DUE TO THE FUNCTION OF THE VIRUS GENOME WAS OBSD. UNDER NONPERMISSIVE CONDITIONS AS WELL AS THE SYNTHESIS OF STRUCTURES WITH SEDIMENTATION CONSTS. OF 10 S AND 5 S WHICH REACTED WITH SPECIFIC ANTIVIRAL SERUM. IT IS SUGGESTED THAT SYNTHESIS OF THESE STRUCTURES AND OF PROTEINS INHIBITING SYNTHESIS OF CELLULAR MACROMOLS. OCCURS UNDER THE DIRECTION OF PARENTAL POLIOVIRUS RNA.

USSR

UDC 547.26'118

MIZRAKH, L. I., BABUSHKINA, T. A., YAKOVLEV, V. G., KOZLOVA, L. N., YUKHNO, Ye. M., STAROSTINA, L. N., and YANOCHKINA, G. A.

"Phosphorus-Containing Derivatives of Isothiuronium. III. Alkylation of Thiourea with Diethyl Chlorophosphate and the Diethyl Ester of 2-Bromoethylphosphonic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 43, No 11, Nov 73, pp 2364-2367

Abstract: It was established that the metaphosphate of S-ethylisothiuronium formed upon the reaction of diethyl chlorophosphate with thiourea. A study of the reaction of O, O-diethyl 2-bromethylphosphonate with thiourea showed that in this reaction, as distinguished from that with alpha-halophosphonates (MizraKh et al, Zh. Obshch. Khim., Vol 41, 2654, 1971), which proceeded in the opposite order, alkylation of thiourea with the haloalkyl group took place initially, while participation of the ester group of the alkylation occurred only under more severe conditions. On further heating of the product $(EtO)_2P(O)CH_2CH_2 \cdot SC(NH_2)_2 Br^-$ that formed initially, EtBr evolved and the product $O_2P(OEt) \cdot CH_2CH_2SC(NH_2)_2$ was obtained.

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1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NQR NUCLEAR QUADRUPOLE RESONANCE SPECTRA OF ANTIMONY 121 AND
ANTIMONY 123 IN R SUB3 SBX SUB2 COMPOUNDS -U-
AUTHOR-(05)-SVERGUN, V.I., BORISOV, A.YE., NOVIKOVA, N.V., BABUSHKINA,
T.A., BRYUKHOVA, YE.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 484-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NUCLEAR RESONANCE, CHLORIDE, ANTIMONY ISOTOPE, BROMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1519 STEP NO--UR/0062/70/000/002/0484/0435
CIRC ACCESSION NO--AP0120300
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120300

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NQR SPECTRA OF PRIME121 SB AND PRIME123 SB WERE REPORTED FOR R SUB3 SBX SUB2 WHERE R WAS SELECTED FROM ME, ISO BU, BU, CL, PH, CIS AND TRANS CLCH:CH, AND X WAS SELECTED FROM CL AND BR. THE MEASUREMENTS WERE TAKEN AT 77DEGREESK. PH SUB3 ASCL SUB2 IS ISMORPHOUS WITH PH SUB3 SBCL SUB2 AS THEIR RESP. NQR DATA ARE READILY TRANSLATABLE. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

B UDC 538.113 + 543.42 + 547.242 + 546.13

SVERGUN, V. I., BABUSHKINA, T. A., SHVEDOVA, G. N., KUDRYAVTSEVA, L. V., and SEMIN, G. K., Institute of Organoelemental Compounds, Academy of Sciences USSR

"As⁷⁵ and Cl³⁵ NQR Spectra of Chlorine-containing Organoelemental Compounds of Trivalent Arsenic"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 482-483

Abstract: The As⁷⁵ and Cl³⁵ NQR spectra for compounds of the type R_xAsR_{3-x} were studied. It was found that sharply different substituents in these compounds produce a significant increase in the angle between the atomic hybridized orbitals of the metal, which increases the p-character of the sp-hybridized pair of the metal, resulting in a sharp increase in the As⁷⁵ NQR frequency. The angle becomes much

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SVERGUN, V. I., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 482-483

greater than the valence angle. In addition, deviation of the orbital occupied by the unshared pair from the third-order pseudoaxis also brings about an increase in As^{75} NQR frequencies. The authors thank A. YE. BORISOV for his interest in the work and G. KH. KAMAY for providing samples of Ph_2AsPh^* .

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NMR, NUCLEAR QUADRUPOLE RESONANCE, SPECTRA OF CHLORINE 35 AND
INFLUENCE OF TRANSMISSION EFFECTS IN A RSD SUB2 CL SERIES -U-
AUTHOR--(03)--SEMIN, G.K., NEYMYSHEVA, A.A., BABUSHKINA, T.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 486-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--NUCLEAR RESONANCE, SPECTRUM, CHLORINE ISOTOPE, ORGANIC SULFUR
COMPOUND, CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0614 STEP NO--UR/0062/70/000/002/0486/0488
CIRC ACCESSION NO--AP0119526
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119526

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRIME35 CL NQR SPECTRA ARE REPORTED FOR RSO SUB2 CL WHERE R WAS: CL, F, CCL SUB3, ME, MED, CH SUB2:CH, CLCH SUB2 CH SUB2, ET, ETO, ME SUB2 N, PR, ISO-PR, 2,THIENYL, BU, ET SUB2 N, C SUB6 F SUB5, NH SUB2, PH, CLCHS UP2, PHO, C SUB6 CL SUB5, (CO) SUB3 MNC SUB5 H SUB4, OR (CO) SUB3 REC SUB5 H SUB4. FROM THE CORRELATION OF THE PRIME35 CL FREQUENCIES WITH THE TAFT SUBSTITUENT CONSTS. IT IS SHOWN THAT THE SUBSTITUENT EFFECTS ARE TRANSMITTED WITH SUCH COMPS. THROUGH SO SUB2 CL GROUP BY ALMOST PURELY INDUCTIVE MECHANISM. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

1/2 014

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--NQR NUCLEAR QUADRUPOLE RESONANCE SPECTRA OF ARSENIC 75 AND CHLORINE 35 OF CHLORINE CONTAINING ORGANARSENIC III COMPOUNDS -U-

AUTHOR--(05)-SHVEDOVA, G.N., SVERGUN, V.I., BABUSHKINA, T.A., KUDRYAVTSEVA, L.V., SEMIN, G.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 482-3

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR RESONANCE, SPECTRUM, ARSENIC ISOTOPE, CHLORINE ISOTOPE, ORGANIC ARSENIC COMPOUND, MOLECULAR ORBITAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/0643

STEP NO--UR/0062/70/000/002/0482/0483

CIRC ACCESSION NO--AP0119560

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0119560
ABSTRACT/EXTRACT--(U) GP--O- ABSTRACT. NQR SPECTRA WERE REPORTED FOR
PRIME75 AS AND PRIME35 CL IN ASCL SUB3, ME SUB3 AS, ET SUB3 AS, PH SUB3
AS, PH SUB2 ASC SUB6 H SUB4 CO SUB2 H P AND M ISOMER, PH SUB2 ASCL,
MEASCL SUB2, ETASCL SUB2, PRASCL SUB2, AND BUASCL SUB2. THE P CHARACTER
OF THE SP HYBRIDIZED UNSHARED ELECTRONS OF AS INCREASES UNDER THE
INFLUENCE OF DIVERSE SUBSTITUENTS ON AS; THIS CORRESPONDS TO INCREASED
ANGLE BETWEEN METAL ORBITALS RELATIVE TO THE VALENCE ANGLE AND DEVIATION
OF THE ORBITAL OCCUPIED BY THE LONE PAIR FROM THE PSEUDOAXIS OF THE 3RD
ORDER. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

AP0047314

Ref. Code: UR 0300

PRIMARY SOURCE: Ukrayns'kiy Biokhimichnyi Zhurnal, 1970,
Vol 42, Nr 1, pp 24-27

ON POSSIBILITY OF EXISTENCE IN ANIMAL TISSUES
OF DIFFERENT CONFORMATION FORMS OF t-RNA
DIFFERING BY ABILITY TO ACCEPT AMINO ACIDS

G. Kh. Matsuka, T. P. Bahy, E. B. Skvirskaya, M. I. Kovalenko, V. I. Semenikhin
Institute of Biochemistry, Academy of Sciences, Ukrainian SSR, Kiev.

Summary

The transfer RNA of the liver of fastened rabbits loose partially the ability to accept such amino acids as tyrosine, leucine, methionine and glycine. A momentary heating of t-RNA in the presence of magnesium ions favours to a considerable extent the reduction of the lost ability of t-RNA to accept the mentioned amino acids. The analogous results are obtained when studying t-RNA of the rat liver in the experiments with menthionine. It is possible to suppose that tyrosine, methionine, leucine and glycine t-RNA and, probably, other, during the fasting of animals, are available in the liver in a changed conformation form, to which a low biological activity is peculiar.

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REEL/FRA
19790832

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1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--PREPARATION OF BASE CASTINGS FROM LOW ALLOY CAST IRON -U-
AUTHOR--(05)--SKAZHENNIK, V.A., BELYAKOV, B.P., MIROSHNICHENKO, A.I.,
~~BABYACHEV, B.D.~~ BUT, YU.G.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, (1), 40 B
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CAST IRON, TITANIUM CONTAINING ALLOY, COPPER CONTAINING ALLOY,
NICKEL CONTAINING ALLOY, CHROMIUM CONTAINING ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1995/1387 STEP NO--UR/0128/70/006/001/0040/0040
CIRC ACCESSION NO--AP0116836
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116836

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE IMPROVEMENT OF HARDNESS, STRUCTURE, AND DURABILITY OF CASTINGS FOR DENTAL EQUIPMENT WAS ACHIEVED THROUGH THE ADDN. OF NATURALLY ALLOYED CR-NI AND TI-CU CAST IRONS TO THE PRODUCTION FOUNDRY CAST IRON. THE OPTIMAL AMTS. WERE: CR-NI 10-12 AND TI-CU CAST IRONS 7-8PERCENT WITH RESULTING CHEM. COMPN. OF THE FOUNDRY CAST IRON: C 3.0-3.35, SI 1.4-1.7, MN 0.7-0.9, CR 0.2-0.35, CU 0.2-0.35, NI 0.1-0.26, TI 0.1-0.15, P SMALLER THAN OR EQUAL TO 0.3, AND S SMALLER THAN OR EQUAL TO 0.12 WT. PERC TE SIL STRE GTH 26 KG- M PRIM , HARDN S 187- 0 . THE MICROSTRUC URE CONSISTED OF ONLY PEARLITE WITH INCLUSIONS OF GRAPHITE HAVING LENGTH OF 220 MU.

UNCLASSIFIED

USSR

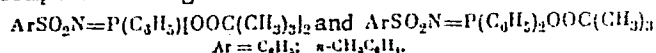
UDC 547.26'118.07

BABYAK, A. G., and YURZHENKO, T. I.

"Investigation of Some Reactions of tert.-Butyl Peroxides of Phosphazosulfonylaryls"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 532-535

Abstract: In previous papers, the authors have described synthesis of phenylditert.-butylperoxy- and diphenyltert.-butylperoxyphosphazosulfonylaryls. In this paper, a study is made of reactions of hydrolysis and ammonolysis of the compounds in analogy with the previously studied conversions of phenyldialkoxy- and phenyldiphenoxyphosphazosulfonylaryls. The following compounds of general formulas were studied:



It is found that when phenylditert.-butylperoxyphosphazosulfonylaryls are hydrolyzed by an equimolar quantity of water, tert.-butyl peresters of arylsulfonylamidophenylphosphonic acids are formed, while an excess of water produces arylsulfamides and phenylphosphonic acid. On both stages of hydrolysis, the peroxide groups are retained and released in the form

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BABYAK, A. G., and YURZHENKO, T. I., Zhurnal Obshchey Khimii, Vol 42(104 ,
No 3, Mar 72, pp 532-535

of free tert.-butylhydroperoxide. Hydrolysis of diphenyltert.-butylperoxyphosphazosulfonylaryls leads to the formation of arylsulfonylamidodiphenylphosphonic acids and free tert.-butylhydroperoxide. Acidolysis of phenyldi-tert.-butylperoxyphosphazosulfonylaryls by an equimolar quantity of glacial acetic acid produces tert.-butyl peresters of arylsulfonylamidophenylphosphonic acids, and acidolysis by an excess amount of acetic acid yields N-acetylarylsulfamides and phenylphosphonic acid. During acidolysis, the peroxide groups are isolated in the form of peresters. Moist ammonia reacts with phenylditert.-butylperoxyphosphazosulfonylaryls to form amides of arylsulfonylamidophenylphosphonic acids with release of tert.-butyl hydroperoxide.

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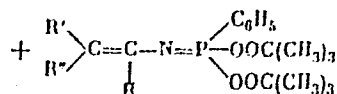
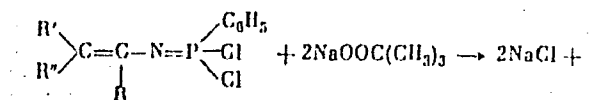
UDC 547.26'118.07

BABYAK, A. G., YURZHENKO, T. I., and BOBNARCHUK, N. D., L'vov Polytechnical Institute and the Institute of Organic Chemistry of the Academy of Sciences of the Ukrainian SSR

"Synthesis and Some Reactions of Substituted Phenylditert.-butylperoxyphosphazoethylenes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 535-538

Abstract: Substituted phenylditert.-butylperoxyphosphazoethylenes are synthesized by the reaction of the sodium salt of tert.-butyl hydroperoxide with substituted phenyldichlorophosphazoethylenes in an ether solution in the presence of anhydrous sodium sulfite.



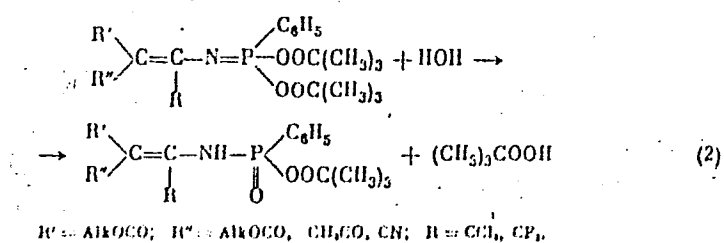
R = CCl₃, CF₃; R' = AlkOCO; R'' = AlkOCO, CN, AlkCO.

1/3

USSR

BABYAK, A. G., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 535-538

The resultant oils do not distill in a vacuum and are readily soluble in ether, benzene, acetone and chloroform, poorly soluble in petroleum ether. When treated with an equimolar quantity of water in a neutral medium, substituted phenylditert.-butylperoxyphosphazoethylenes hydrolyze yielding tert.-butyl peresters of substituted ethenylamidophenylphosphonic acids and tert.-butylhydroperoxides.



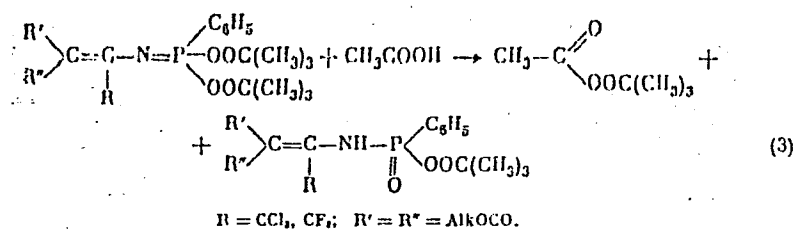
2/3

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USSR

BABYAK, A. G., et al., Zhurnal Obshchey Khimii, Vol 42(104), No 3, Mar 72, pp 535-338

The peresters are thick, colored oils which are readily soluble in acetone and chloroform, moderately soluble in ether and benzene, and poorly soluble in water. Treatment of substituted phenylditert.-butylperoxyphosphazo-ethylenes with an equimolar quantity of glacial acetic acid produces tert.-butyl peresters of substituted ethenylamidophenylphosphonic acids and tert.-butylperacetate.



3/3

USSR

UDC 547.26'118.07

YURZHENKO, T. I., and BABYAK, A. G., L'vov Polytechnic Institute

"Synthesis of Phenyl-di-tert-butylperoxyphosphazosulfonylaryls"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1662-1663

Abstract: By analogy with the reaction of phenyldichlorophosphazosulfonylaryls with alcoholates and phenolates, the authors used their interaction with the sodium salt of tert-butyl hydroperoxide to synthesize organophosphorus peroxides of a new type, viz. phenyl-di-tert-butylperoxyphosphazosulfonylaryls. The solvent was absolute ether, the desiccant was anhydrous sodium sulfate at 8-10°. After filtering of NaCl the solvent was distilled off and the resultant peroxide held in a 2 mm vacuum at 18-20° for 2-3 hours; yield 50-60 percent.

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USSR

UDC 547.26'118.07

YURZHENKO, T. L., BABYAK, A. G., L'vov "Order of Lenin" Polytechnical Institute, L'vov, Ministry of Higher and Secondary Specialized Education RSFSR

"A Method of Producing Phenylditerbutylperoxyphosphazosulfonylaryls"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271519, filed 24 Dec 68, p 24

Abstract: This Author's Certificate introduces: 1. A method of producing phenylditerbutylperoxyphosphazosulfonylaryls. As a distinguishing feature of the patent, dichlorophenylphosphazosulfonylaryl is interacted with the tertbutyl hydroperoxide salt of an alkali metal such as sodium in an organic solvent such as diethyl ether with subsequent isolation of the goal product by conventional methods. 2. The method described in (1) is distinguished by the fact that the process is carried out at temperatures of 8-10°C.

1/1

USSR

UDC 624.131.43+539.21.084-492.3

GODZEVICH, I. N., BABAYANTS, G. V.

"Experimental Study of the Damping of Surface Waves of a Soil Foundation"

Tr. Krasnodar. politekhn. in-t (Works of Krasnodar Polytechnical Institute),
1971, No. 34, pp 129-133 (from RZh-Mekhanika, No 3, Mar 72, Abstract
No 3V930)

Translation: The amplitudes of vertical oscillations of the ground surface at various distances from a rectangular stamp on which a time-variable vertical force acts were measured experimentally. The experiments were conducted in sandy soil with $\gamma_c = 1.65 \text{ g/cm}^3$ and a porosity $n = 0.38$ and in clay soil with $\gamma_c = 1.45 \text{ g/cm}^3$ and $n = 0.37$. The frequency of oscillations of the force ν was $3200\text{--}5800 \text{ min}^{-1}$. The area of the stamp was 1840 cm^2 . It was shown that the amplitude of the oscillations of the ground A drops with the distance from the stamp following an exponential law. The amplitude of the ground oscillations decreases with the rise in ν . In sandy soil at a distance of 80 cm from the stamp $A/A_0 = 0.197$ for $\nu = 3200 \text{ min}^{-1}$ and $A/A_0 = 0.05$ for $\nu = 5200 \text{ min}^{-1}$. A_0 is the amplitude of the oscillations of the stamp. G. M. Lyakhov.

1/1

- 24 -

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--FORMATION OF RESINOUS STRUCTURES IN RUBBERS DURING VULCANIZATION
AND THEIR EFFECT ON REINFORCEMENT -U-
AUTHOR-(04)-BURAKOVA, N.N., EPSHTEYN, V.G., YEMELYANOV, D.P., BABYUK, D.N.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 337-341
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MOLECULAR STRUCTURE, FORMALDEHYDE, POLYMER CROSS LINKING,
RUBBER, VULCANIZATION
CTRL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2152 STEP NO--UR/0069/70/032/003/0337/0341
CIRC ACCESSION NO--AP0125735
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125735

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY HAS BEEN STUDIED OF THE FORMATION OF RESINOUS STRUCTURES IN RUBBER DURING VULCANIZATION AS THE RESULT OF INTERACTION OF PHENOLIC RESINS (RESORCINOL FORMALDEHYDE OR LIGNIN) WITH RESOTROPIN. IN THIS CASE RUBBER REINFORCEMENT DEPENDS ON THE AMOUNT OF RESIN FORMING COMPONENTS IN THE MIX. ADDITION OF A RESIN FORMING SUBSTANCE (RESOTROPIN) MIXED WITH SMALL AMOUNTS OF RESIN ENSURES THE FORMATION DURING VULCANIZATION OF SECONDARY CHAIN STRUCTURES FROM RESIN PARTICLES AS THE RESULT OF THEIR CHEMICAL COMBINATION.

FACILITY: YAROSLAVSKIY TEKHNOLOGICHESKIY INSTITUT.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--INDIUM TELLURIDE ANTIMONY TELLURIDE SYSTEM -U-
AUTHOR--(02)-BELOTSKIY, D.P., BABYUK, P.F.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 572-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--INDIUM COMPOUND, ANTIMONY COMPOUND, TELLURIDE, BRITTLINESS,
EUTECTIC, THERMAL ANALYSIS, INTERMETALLIC COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0896 STEP NO--UR/0363/70/006/003/0572/0574
CIRC ACCESSION NO--AP0118065
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118065

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IN SUB2 TE SUB3 SB SUB2 TE SUB3 SYSTEM WAS STUDIED BY THERMAL, X RAY PHASE, AND MICROSTRUCTURAL ANAL. METHODS OVER THE ENTIRE CONC. RANGE. INDIVIDUAL IN SUB2 TE SUB3 AND SB SUB2 TE SUB3 COMPOS. SERVED AS THE STARTING MATERIALS. THE COMPOS. WITH A LARGE SB SUB2 TE SUB3 CONTENT POSSESSED A METALLIC LUSTER AND HIGH BRITTLNESS. THE PHASE DIAGRAM FOR THE IN SUB2 TE SUB3 SB SUB2 TE SUB3 SYSTEM WAS CONSTRUCTED FROM THE HEATING CURVES. THE CHANGE IN THE LATTICE PARAMETER WITH CHANGING CONTENT OF THE 2 COMPOS. PRESENT IS DISCUSSED IN TERMS OF THE VACANCY CONC. AND THE CHEM. BONDS. THE SOLY. OF SB SUB2 TE SUB3 IN IN SUB2 TE SUB3 IS SMALLER THAN 1-MOLE PERCENT. THE EUTECTIC IS AT 55 MOLE PERCENT IN SUB2 TE SUB3 AND 595DEGREES AND NOT AT 70 MOLE PERCENT IN SUB2 TE SUB3 AS PREVIOUSLY REPORTED. THE PRESENCE OF SOLID SOLNS. FROM THE SB SUB2 TE SUB3 SIDE AT THE EUTECTIC TEMP. IS OBSERVED TO 40 MOLE PERCENT; IN SUB2 TE SUB3, AT 520DEGREES IT IS OBSERVED TO 35 MOLE PERCENT IN SUB2 TE SUB3, AND AT 450DEGREES, TO 30 MOLE PERCENT IN SUB2 TE SUB3. FACILITY: CHERNOVITS. GOS. UNIV., CHERNOVTSY, USSR.

UNCLASSIFIED

USSR

UDC: 51:155.001.57:681.3.06

BACHAUSKEVICH, M. I., GUDYALIS, L. P., LASHAS, A. V.

"Some Problems of Designing a Font of the OCR-B Type"

V sb. Avtomatika i vychisl. tekhn. (Automation and Computer Technology--
collection of works), No 3, Vil'nyus, "Mintis", 1971, pp 101-106 (from
RZh-Kibernetika, No 12, Dec 71, Abstract No 12V1020)

Translation: The paper deals with a number of problems relating to the
design of a slightly stylized font for both machine and visual reading.
A font of an OCR-B type is presented for the Russian alphabet together
with certain of its characteristics. Authors' abstract.

1/1

Computer Technology

USSR

UDC 621.391.2

GVIL'DIS, I. Yu., LASHAS, A. V., ~~BACHAUSKENE, M. I.~~, GUDYALIS, L. P.

"Relative Comparison of Some Rules of Classification in the Case of Low Probabilities of Errors"

Vil'nyus, Nauchnyye trudy vysshikh uchebnykh zavedeniy Lit. SSR. Avtomatika i vychislitel'naya tekhnika (Scientific Works of Institutions of Higher Education of the Lithuanian SSR. Automation and Computer Technology), No 2, 1970, "Mintis", pp 5-13

Abstract: A relative comparison is made in this article of some rules of classification in the case where the probabilities of errors are small. This kind of classification enables determination of the best rule in the sense of error probability for the given objects. Determination of the best rule of classification is carried out as a check on the statistical hypothesis of comparison of two probabilities. It is proposed that the frequencies of rejection be used in the case of a limited number of objects to be tested. Algorithms which realize relative comparison are presented for some rules of classification, and the experimental results of such a comparison are given. Four tables, one illustration, bibliography of nine titles.

1/1

BACHELIS, R.D.

math



DEPARTMENT OF THE ARMY
U.S. ARMY FORM 100-10
11-1-71
CHARLOTTEVILLE, VIRGINIA 2201

to be used for
DATE 23 424-71
DATA NO. 770 7301

File 26 August 1972

TRANSLATION

ENGLISH TITLE: SOLVING A STEPHEN TYPE PROBLEM BY THE METHOD OF STRAIGHT LINES

FOREIGN TITLE: Решения задачи типа степенного пьрамиды

011-4074 4074

AUTHOR: R. D. Bachelis, V. G. LANGUAGE: Russian

SOURCE: Journal of Computing TRANSLATION: ACST

Mathematical Physics, Vol 9 REQUESTOR: SMFA-U1000-F10
No. 3, May, June 1969

GRAPHICS NOT REPRODUCIBLE

This translation was accomplished from a xerox manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

Approved for public release Distribution unlimited

USSR

UDC 621.372.852

BACHININA, YE. L., PROKHOROVA, N. I., FEL'DSHTEYN, A. L., Active Members of the Scientific and Technical Society of Radio Engineering, Electronics, and Communications

"Losses in Superhigh Frequency Filters and the Problems of Miniaturization"

Moscow, Radiotekhnika, Vol 26, No 10, 1971, pp 46-52

Abstract: The effect of dissipative losses on the frequency characteristics of superhigh frequency filters was analyzed, and a study was made of the conditions determining the minimum losses. The limits of miniaturization were established from the point of view of dissipative losses in the filter. The methods of strict synthesis of filters considering losses are not considered inasmuch as in the filters calculated by this procedure, the mean loss level increases significantly. The so-called pseudochelbyshov and pseudomaximally planar characteristics interpreted as the frequency characteristics of the filter of the corresponding type calculated without considering the losses are investigated. The loss effect is further considered by introducing a complex constant transmission of the $\gamma = \alpha + i\beta$ lines and subsequent analysis of the system. Greater simplicity of the physical and mathematical concepts and greater generality are obtained than in previous papers. Specific numerical characteristics are found which permit fast, simple calculation of filters with losses. Filters
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USSR

BACHININA, YE. L., et al., Radiotekhnika, Vol 26, No 10, 1971, pp 46-52

with direct and quarter-wave couplings were compared, and the losses at the center of the pass band for both types of filters compared for three types of lines (wave guide, air cavity and printed ceramic) demonstrated complete identicalness in both types of filters under other equal conditions. The universal curves for the filters and their approximation by a hyperbola are investigated and illustrated. The conditions of minimum losses are discussed, and an example calculation is given.

The law established in the paper -- the product of the average losses in the filter circuit times the width of its pass band is constant -- facilitates the investigation of a filter with losses. By using the universal curves it is possible to determine the losses in the filter with any number of circuits n and any pass band and to find the conditions of minimum losses. The minimum dissipative losses in a filter is highly uncritical. When $k = 1.8-3$ [k is the coefficient of rectangularity], the losses almost do not vary. When $k \rightarrow 1$, the losses increase sharply. The type of characteristic (Chebyshev or maximally planar) essentially has no effect on the minimum magnitude of the losses. A table of values of the constants a [the product of the average losses in the filter circuit times the filter pass band] permits construction of the required hyperbolas for each specific case. Graphs are presented which demonstrate that the dissipative losses in miniature filters increase sharply.

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- 24 -

- USSR

BACHININ, YU. G., GULYAYEV, YU. V.

"Nonlinear Theory of Ultrasound Amplification in Semiconductors in a Magnetic Field"

Leningrad, Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1026-1035

Abstract: The nonlinear theory of the amplification of an external ultrasonic wave by an electric current developed previously is generalized to the case where the sound-carrying crystal is placed in an external transverse magnetic field. The general expressions are obtained which describe the effect of the magnetic field on the local interaction of the electrons with the sound wave by means of which the problem of stationary amplification of the sound in the crystal of finite length is then solved. A study was made of the variation of the electric characteristics of such a crystal with an increase in the magnetic field and, in particular, the deformation of the volt-ampere characteristic of the sample. Under defined conditions, including a magnetic field optimizes the interaction of the electrons with the sound wave, and accordingly, it leads to improvement of the amplification conditions -- to a decrease in the current flowing through the crystal and an increase in the sound intensity at the crystal output under constant applied voltage.

A detailed study was made of the physical nature of the processes investigated here and, in particular, the concentration nonlinear effects were
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USSR

BACHININ, YU. G., et al., Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1026-1035

described by introducing the characteristic times of the problem and the corresponding parameters.

The investigated theory is strictly applicable only to the case of a monochromatic wave introduced into the semiconductor from the outside. However, the basic results should be applicable at least qualitatively to the investigation of amplification of the natural sonic vibrations of a semiconductor in a transverse magnetic field.

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USSR

BACHINSKAYA, M., Chief Physician of Antituberculosis Dispensary No 2

"... Minus Alcoholism"

Moscow, Meditsinskaya Gazeta, 29 Nov 72, p 2

Translation: Tuberculosis plus a weakness for liquor... This is perhaps the most unfavorable combination. Physicians know: the consumptive process in an alcoholic is progressive as a rule. It is a fact that in overwhelming majority of cases the treatment of the principal disease is incomplete. One does not succeed in carrying out a prolonged course of antibacterial therapy because of a poor tolerance of preparations and gross infringements of hospital regime by the patients. This very class of patients determines to a great extent the level of morbidity due to tuberculosis. Moreover, the sources of dissemination of infection continue to be preserved. We cannot ignore the fact that a bacilli-carrier alcoholic may not observe the elementary rules of hygiene.

The question of treatment of such patients in Zhovetnevyy Rayon of Kiev was critical, but as regards persons with the above-mentioned "symbiosis" we were practically helpless. Sooner or later the treatment of the patient in one of specialized infirmaries of the city was terminated by a premature discharge. The question of methods of procedure in all these cases was more than once raised at medical councils and conferences.

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USSR

BACHINSKAYA, M., Meditsinskaya Gazeta, 29 Nov 72, p 2

To cure such patients of alcoholism, in order to radically improve the treatment of tuberculosis, is a task that should be solved by phthisiologists themselves. Physicians of our Antituberculosis Dispensary No 2 have decided to realize this idea. Director of the Infirmary Department S. Pashkevich and ward head S. Brenerova have developed in the Narcological Department of the City Psychoneurological Hospital imeni I. P. Pavlov a technique for the treatment of alcoholism. Of considerable assistance in this new undertaking was Narcologist of the City Psychoneurological Dispensary I. Bessonov, who undertook in the beginning to look after unusual hospital wards. The initiative was approved by the Rayon Committee of the Party and by the City Health Department.

Physicians were concerned lest the antialcoholic therapy might aggravate tuberculosis. However, they satisfied themselves that the use of the complex of definite agents does not affect the course of pulmonary pathology and does not interfere with the specific therapy, including the intravenous administration of antibiotics and chemical preparations.

At the beginning of the treatment we apply sulfazine (concomitantly with streptomycin and para-aminosalicylic acid). This is followed by aversion therapy and development of antialcoholic reflex: infusion of Arnoseris minima, or apomorphine, are prescribed. The final stage consists of developing an

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USSR

BACHINSKAYA, M., Meditsinskaya Gazeta, 29 Nov 72, p 2

aversion to alcohol with antabuse and with trikhopol.

The results of the treatment of chronic alcoholism are rather impressive and stable: In the majority of patients no recurrences were noted for a period of one year. The antialcoholic orientation is further enhanced by the fact that generally used periods of treatment of patients with active forms of tuberculosis permit us to control the status of those cured, and should the need arise, to effect a supporting antialcoholic therapy.

Physicians of all antituberculous dispensaries of Kiev are acquainted with indications for the referral for treatment in our infirmary. Thus, a City Phthisionarcological Infirmary has been created, whose patients show a considerable improvement in their general condition. To say nothing of positive reaction of their families and establishments where they are working. A characteristics point to be noted: in case of a relapse the patients themselves ask for a repeated course of antialcoholic therapy.

In our opinion we have to continue to adhere to the principle of centralization in the treatment of such patients. The example of the already cured, and the general climate of the ward also influence favorably the patients newly arriving at the infirmary.

We should also mention some difficulties. Thus we experience irregularities in being supplied with antabuse, whereas to interrupt the

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USSR

BACHINSKAYA, M., Meditsinskaya Gazeta, 29 Nov 72, p 2

treatment and leave incomplete the course of therapy is highly undesirable. On the other hand, occupational therapy is an essential element in the treatment of alcoholism. It would be therefore expedient to open workshops and to add to the staff of the dispensary an occupational instructor and a narcologist.

The work in the infirmary is strenuous: the carrying out of anti-alcoholic therapy of tuberculosis patients is a responsible process. It must be analyzed and adjusted. Moreover, some psychological complexities also occur. Thus, for example, the question arises, whether or not one should inform the place of employment of the patient that he is being treated for alcoholism? Apparently one should approach this problem individually. In some cases we promise to keep the secret, but we warn: in the case of a breakdown the administrative consequences are inevitable, including a compulsory treatment. In short, various psychotherapeutic efforts should be also applied.

The results of specific therapy are already on hand. In the group of patients of whom we speak abacillation has been achieved in more than one half of cases. This is a weighty argument in favor of the formula: minus alcoholism.

4/4

ACC. NR: AP0052327

Ref. Code: 070233

PRIMARY SOURCE: Fiziologichnyi Zhurnal, 1970, Vol 16, Nr 1, pp 34-41

PECULIARITIES OF HYPERGLYCAEMIA EFFECT ON SODIUM-URATIC FUNCTION
OF KIDNEYS IN PEOPLE AT DIFFERENT STATES OF THE BODY

P. P. Bachinskiy

Department of Biochemistry, Medical Institute, Ternopol

Summary

The effect was studied of alimentary hyperglycaemia, caused by glucose application in a dose of 0.6 g per 1 kg of human body weight, on the intensity of sodium excretion with urine. The glucose was determined in plasma and urine by the Hultman method (1959), sodium — by the method of flame photometry.

Subthreshold hyperglycaemia in practically healthy people (53 persons) was established to favour a double increase in the intensity of sodium excretion. In patients (26 persons) with a damping-syndrome after glucose administration hyperglycaemia and

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19820910

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USSR

UDC 547.1'118'122,621.892.009.6

GORDASH, YU. T., KHARCHENKO, L. S., RABINOVICH, I. L., BACHINSKIY, T. P.,
GUPALO, A. P., ZEMLYANSKIY, N. I., KOTOVICH, B. P., and MURAV'YEV, I. V.,
All-Union Scientific Research and Project and Design Institute of the
Petroleum Conversion and Petrochemical Industry, Kiev

"Investigation of Sulfur-Containing Organophosphorus Compounds as Additives
to Lubricating Oils"

Moscow, Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

Abstract: The effectiveness of derivatives of thiophosphoric acid as additives to lubricating oil was studied. Fifteen compounds of this type including O,O-dialkyl-S-alkyl dithiophosphates, O-diethylaminoethyl-S,S-dipropyl trithiophosphate, bis(O,O-diethyldithiophosphate)-benzylidene, bis(O-methyl-O-butylthiophosphone)disulfide, O-alkyl-S,S-dialkyl trithiophosphates, and S,S,S-tetraethyl tetrathiothiophosphate were synthesized for this purpose. The formulas and characteristics of these compounds are listed in a table. The effects of addition of the 15 compounds to oil DS-11 on the thermal oxidation stability of the oil, the corrosion of Pb plates, the over-all index of wear, the critical load of seizing, and the critical load of welding were determined and compared with those of additive DF-11 (Zn butyloctyl-
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USSR

GORDASH, YU. T., et al., Neftekhimiya, Vol 11, No 1, Jan-Feb 71, pp 135-140

dithiophosphate). The results of the tests showed that use of trialkyl tetrathiophosphates, bis(0,0-dialkylthiophosphone)disulfides, and 0-dialkyl-aminoalkyl-S,S-dialkyl trithiophosphates as multifunctional additives to lubricating oils would be of advantage. The effects of the CCl_3 group in reducing wear and seizing of friction surfaces were confirmed by the results of tests on dithiophosphates containing an $-\text{SC}(=\text{O})\text{CCl}_3$ group. The tests with 0,0-difurfuryl-S-trichloroacetyl dithiophosphate indicated that this compound would be a good all-around additive for lubricating oils.

2/2

USSR

B UDC 547.26'118

ZEMLYANSKIY, N. I., and BACHINSKIY, T. P., L'vov State University
imeni Ivan Franko, Lvov, Ministry of Higher and Secondary Specialized
Education Ukrainian SSR

"Reactions of O,O-Dialkyl(aryl)dithiophosphoric Acids With Aldehydes
and Ketones. IV. Interaction of O,O-Dialkyldithiophosphoric Acids
With Ketones"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1019-
1021

Abstract: For purposes of studying the reactivity of the carbonyl
group of ketones, the authors investigated the interaction of some
O,O-dialkyldithiophosphoric acids with ketones. It was found that
aromatic and aliphatic-aromatic ketones react with O,O-dialkyldithio-
phosphoric acids analogously to aldehydes on the carbonyl group, but
under more severe conditions. The corresponding O,O,O,O-tetraalkyl-
S,S-alkylphenyl(diphenyl)methane-bis-dithiophosphates were isolated.

1/1

USSR

UDC 681.325.53

DEWALD, Ingo; CHRISTIANSMEIER, Gehrhard, and BACHMANN, Ludwig, (VEB Elektronische Rechenmaschinen, East Germany),

"A Device for Converting Decimal Numbers to Binary and Vice Versa"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Patent No 311474, Division G, filed 18 Feb 69, published 9 Aug 71, pp 238-239

Translation: This Patent introduces a device for converting decimal numbers to binary and vice versa. The device contains a shift register for recording the binary number, and also decimal registers, each connected with two code converters. As a distinguishing feature of the patent, in order to increase speed, the outputs of the last k digits of the shift register are connected to the inputs of both code converters of the decimal register for the first digital place, and the outputs of these code converters are connected to the inputs of the decimal register for this same digital place. The k outputs of the code converters of the decimal register for each preceding digital place are connected to

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USSR

DEWALD, I., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Patent No 311474, Division G, filed 18 Feb 69, published 9 Aug 71, pp 238-239

the k inputs of the code converters of the decimal register for the next digital place. The k outputs of the code converters of the decimal register for the last digital place are connected to the inputs of the first k digital places of the shift register. Conventional priority from 6 Jun 68.

2/2

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USSR

UDC 621.396.6-181.48

MURZIN, YU. M., BOBKOV, N. YE., and BACHMANOV, V. A.

"Some Problems Associated With the Control and Search for Failures in Integrated Circuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collection of Scientific Works on Problems in Microelectronics. Moscow Institute of Electronics Technology), 1972, vyp. 10, pp 8-13 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 V222)

Translation: A general evaluation is given of methods for the control of micro-circuits. A detailed study is made of the theoretical basis of the failure search method based on control results. Probability of method error is evaluated. Original article: one illustration and two bibliographic entries. N.S.

1/1

USSR

UDC: 681.337.1

BAKSHIS, B. P., BACHULIS, R. I., GIRDZIYAUSKAS, S. I., ZARETSKAS, V.-S. S.,
RAGUL'SKAS, K. M., ~~Kaunas~~ Polytechnical Institute

"A Photoelectric Input Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 8, Mar 71, Author's Certificate No 296132, division G, filed 11 Aug 69,
published 12 Feb 71, p 158

Translation: This Author's Certificate introduces a photoelectric input device which contains a series hook-up comprised of a source of light flux, a condenser lens, a specimen table with the object to be studied, and an objective lens and photovoltaic cells. As a distinguishing feature of the patent, in order to facilitate focusing of the light flux and adjustment of the sensitive layers of the photovoltaic cells with respect to the object to be studied, the photovoltaic cells in the device are held in a coordinate-positioning unit. Mounted in front of the positioning unit is a beam-splitting element, an objective lens, and a device for visual tracking fitted with a screen with a coordinate grid.

1/1

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PRIME90 SR, STRONTIUM, AND CALCIUM IN CERTAIN HYDROBIONTS OF THE
SEA OF OKHOTSK -U-
AUTHOR-(03)-KOSTAREVA, G.V., BACHURIN, A.A., SOKOLOVA, N.V.
COUNTRY CF INFO--USSR, ATLANTIC OCEAN, INDIAN OCEAN
SOURCE--RADIOBIOLOGIYA; 10: 145-7, JAN-FEB 1970
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, NUCLEAR SCIENCE AND
TECHNOLOGY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--STRONTIUM ISOTOPE, CALCIUM, HYDROBIOLOGY, SEAL, FISH, OCEAN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1837

STEP NO--UR/0205/70/010/000/0145/0147

CIRC ACCESSION NO--AP0127247

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127247

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONCENTRATION OF PRIME90 SR, AS WELL AS THE CONTENT AND COEFFICIENTS OF ACCUMULATION OF SR AND CA IN CERTAIN SPECIES OF SEALS AND FISH OF THE SEA OF OKHOTSK WERE DETERMINED. A COMPARISON WITH THE LITERATURE DATA INDICATED THAT THE CONCENTRATIONS OF PRIME90 SR IN THE INVESTIGATED HYDROBIONTS ARE COMPARABLE WITH THOSE FOR FISH OF THE INDIAN AND ATLANTIC OCEANS AND FOR SEALS OF THE CHUKOCKI SEA. THE COEFFICIENTS OF DISCRIMINATION OF SR WITH RESPECT TO CA IN FISH FROM DIFFERENT SEAS WERE THE SAME. THE SR CONCENTRATIONS, AS WELL AS CA IN RELATED SPECIES OF FISH FROM SEAS WITH DIFFERENT SALT CONTENTS PROVED CLOSE. FACILITY: INST. OF BIOLOGY, SEVASTOPOL, USSR.
FACILITY: PACIFIC OCEAN SCIENTIFIC RESEARCH INST. OF FISHING AND OCEANOGRAPHY, MAGADAN, USSR.

UNCLASSIFIED

USSR

UDC 616.5-039.843-059:615.849.112-07:616.5-005-003.92-0

LUTSENKO, S. M. and BACHURIN, V. I., Chair of Faculty Surgery, Zaporozh'ye Medical Institute

"The Effect of Microwaves on Revascularization of the Blood Supply in Free Skin Grafts"

Moscow, Ortopedia, Travmatologiya, i Protezirovaniye, No 5, 1970, pp 76-78

Abstract: Rabbits were exposed to microwaves for one hour daily for a month, after which two skin flaps were cut from their sides and backs, exchanged, and sutured to the surrounding skin. Within two days flaps in the irradiated animals were edematous, and the epidermis began to slough off in large patches. Newly formed capillaries began to appear after 4 to 5 days, and blood first circulated one or two days later. By the end of the first week, the vessels reached the epidermis, but they were fragile and easily ruptured. After 10 to 12 days, epidermis covered the entire flap, where edges showed signs of necrosis. In control rabbits, on the other hand, the epidermis of the grafts did not progressively desquamate. Newly formed capillaries appeared after 3 days, and the blood began to circulate the next day. Final restoration of the blood supply in the flaps occurred on the 6th or 7th day, compared with the 8th or 9th day in irradiated animals. A study of patients receiving autografts for tropic ulcers caused by varicosities, extensive

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LUTSENKO, S. M., et al., Ortopedia, Travmatologiya, i Protezirovaniye, No 5, 1970, pp 76-78

injuries to soft tissues, or thrombophlebitis showed no differences in the rate of healing; or time of restoration of circulation between those occupationally exposed to microwave radiation, and other types of patients. This suggests that safety precautions for those working with microwaves are adequate.

2/2

USSR

UDC 535.853.23:533.9.07

BACHURINA, L. G., DEVYATKIN, I. I., PERMINOVA, V. M., TSEMKO, N. I., CHUPRINA, L. K.

"Microwave Plasma Solution Analyzer"

Dokl. Vses. soveshch. optich. i titrometrich. analizatorov khim. sred, 1971, Ch. 2 (Reports of the All-Union Conference on Optical and Titrometric Analyzers of Liquid Media, 1971, Part 2), Tbilisi, 1971, pp 130-134 (from RZh--Metrologiya i Izmeritel'naya Tekhnika, No 3, Mar 72, Abstract No 3.32.1052)

Translation: A report is presented on a developed microwave plasma solution analyzer comprising a feed module, a microwave unit including a plasmotron and magnetron oscillator which is attached to the track of the DFS-5 or ISP-30 spectrograph. The microwave discharge is excited in a quartz tube through which argon, helium, nitrogen or air is blown with a flow rate of 5-30 liters/minute. The analyzed solution is introduced into the discharge tube in the form of an aerosol. The analyzer control panel is placed on the feed panel of the feed unit. The photometric analysis was run with respect to the strongest spectral lines. The sensitivity of analyzing calcium and copper was determined as $1 \cdot 10^{-4}$ mg/ml, magnesium, strontium, zinc, cadmium, boron, iron and nickel, $1 \cdot 10^{-3}$ mg/ml, and phosphorus and silicon, $1 \cdot 10^{-2}$ mg/ml. There is 1 illustration, 1 table and a 4-entry bibliography.

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USSR

UDC 612.85.06

BACHURINA, T. I., Chair of Normal Physiology, Military Medical Academy imeni
S. M. Kirov, Leningrad

"Determination of the Functional State of the Auditory Analysor by Means
of Brief Auditory Loads of Increasing Intensity"

Leningrad, Fiziologicheskii Zhurnal SSSR, Vol 58, No 4, 1972, pp 608-612

Abstract: The tests were performed on anesthetized cats with normal and augmented auditory organs and central nervous system. Test stimuli (1,100 Hz, 10 db above threshold) were applied between 3-min long auditory loads (the same frequency) of increasing intensity, and EEG records were taken until the primary response of the temporal cortex to the test stimulus disappeared. Depending on the effect produced, the auditory load is divided into four categories: 1) neutral intensity inducing no changes; 2) sensitizing or optimum intensity (1-40 db in normal animals) lowering the threshold to the test stimulus; 3) passimal intensity (30-60 db) raising the threshold to the test stimulus; and 4) critical intensity (60-80 db) abolishing the primary response, that is, producing complete adaptation. In pretreated cats (chronic irradiation with sound waves, administration of streptomycin, and other treatments) the intensity levels of the various categories are shifted. It is believed that this method is very effective for determining auditory sensitivity and stability/

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USSR

UDC 621.374.34:621.345.664.3

BACHIN, R.F.

"Balanced Decimeter Range Power Limiter"

V sb. Materialy nauch.-tekhn. konf. Leningr. elektrotekhn. in-ta svyazi. Vyp. 4
(Materials Of A Scientific-Technical Conference Of The Leningrad Electrical
Engineering Institute Of Communications. No. 4--Collection Of works), Leningrad,
1971, pp 125-128 (from RZh: Radiotekhnika, No 2, Feb 72, Abstract No 2D48)

Translation: A circuit and formulas are presented for calculation of the
parameters of a balanced microwave power limiter based on semiconductor diodes.
The model of the limiter has insertion losses ≤ 0.4 db with maximum attenuation
ion ≥ 30 db and a voltage standing wave ratio < 1.5 . Summary.

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USSR

UDC 621.374.34:621.395.664.3

BACKIN, R.F., BERSON, M.M.

"Resonant Power Limiter Based On Semiconductor Diodes"

V sb. Materialy nauch.-tekhn. konf. Leningr. elektrotekhn. in-ta svyazi. Vyp.4
(Materials Of A Scientific-Technical Conference Of The Leningrad Electrical
Engineering Institute Of Communications. No. 4--Collection Of Works), Leningrad,
1971, pp 121-125 (from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2D47)

Translation: Problems are considered of the calculations for a diode power
limiter operating in a 2-resonance regime. Formulas are presented for calc-
ulation of the elements of the limiter, with various circuits for inclusion
of supplementary capacitance. The model developed has losses < 1 db and in-
troduces a maximum attenuation of more than 25 db in a 20-percent frequency
band. Summary.

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USSR

BADALBAYEV, I. S.

"One Property of the Estimate for a Regulating Parameter in a Branching Random Process"

Sluchayn. Protsessy i Stat. Vyvody. [Random Processes and Statistical Conclusions -- Collection of Works], Tashkent, Fan Press, 1971, pp 11-17 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V221 by B. Sevast'yanov).

Translation: A supercritical branching Galton-Watson process μ_t with generating function $M s^{\mu} = F(s)$ is studied. Suppose $a = M\mu_1 = F'(1) > 1$, $\lambda = F(\lambda)$ is the probability of degeneration, $a_\lambda = F'(\lambda)$. In earlier works (RZhMat, 1968, IV47; RZhMat, 1970, 12V80), an unbiased estimate $v_t = \mu_{t+1}/\mu_t$ is suggested (where $\mu_t > 0$) for parameter a . This article studies the behavior of $\sigma_t^2 = D\{v_t | \mu_t > 0\}$ where $a = 1/a_\lambda$. It is proven that where $t \rightarrow \infty$ $\sigma_t^2 \sim K a^{-t}$, where K is a certain constant.

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BADALOV, A.L.

[Draft of a compilation of recommended terms pertaining to the use of the radio-frequency spectrum, by A. L. Badalov, H. I. Chistyakov and V. F. Rezhkin, Moscow, Radio i Svyaz, Russian, Vol. 27, No. 1, 1972, pp. 105-111]

RECOMMENDED RADIO TERMS

Radio Frequency

JPRS 55957

10 May 1972

62815

In order to evolve and refine terminology involving the use of the radio-frequency spectrum for reception and transmission of radio signals, the Interdepartmental Commission on Radio Frequencies created the Scientific Commission. It included representatives and radio specialists from the following USSR ministries: Communications, the Radio Industry, Defense, the Electronics Industry, and Higher and Secondary Specialized Education, and from the USSR Academy of Sciences and the Interdepartmental Commission on Radio Frequencies (VYKCH).

As a result of the work done, a draft of a compilation of recommended terms was prepared totaling 188 terms contained in the following four sections: 1 -- General principles; 2 -- Classification of radio frequencies and radio waves; 3 -- Radio systems, radio services and radio stations; and 4 -- Technical characteristics. In April 1971, the VYKCH approved a draft of the compilation and after coordination with the Committee on Scientific and Technical Terminology of the USSR Academy of Sciences recommended preparation of the compilation for publication for use in scientific and technical literature, in the educational process, in standards, and in technical documents.

The draft of the compilation is published in the journal Radiotekhnika on a preliminary basis as informational and reference material and is a foundation for further terminological work.

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[1 - USSR

USSR

UDC 615.834 (479.24):612.13

BADALOV, G. P., and BADALOVA-BACIROVA, Z. I., Azerbaydzhan State Medical Institute

"Comparative Changes in Some Hemodynamic Parameters in the Mountain Health Resort of Istisu and in the City of Baku"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 5, 1972, pp 20-24

Abstract: Istisu is a sanatorium situated 2,200 m above sea level that specializes in the treatment of gastrointestinal diseases. Many persons referred to Istisu have concomitant cardiovascular disease and the authors question the desirability of sending such patients to this sanatorium. To determine the indications and contraindications for doing so, they examined 80 persons with functional cardiovascular diseases in Baku before going to the sanatorium and while undergoing treatment there. They concluded that Istisi is contraindicated for those with stage II B or stage III hypertension, chronic coronary insufficiency, and circulatory disorders. However, it is not contraindicated for those with stage I or stage II A hypertension or hypertension as a concomitant disease.

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- 38 -

Epidemiology

USSR

UIN 016.981.455-036.21(282.247.33:282.6)

SEMENOV, M. Ya., BADALOV, M. Ya., SEMENOVA, A. P., and KOTCHENKO, Ye. K.,
Rostov oblast Sanitary Epidemiological Station

"The Existence of Local Tularemia Foci in the Don Delta"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 5, 1970, pp 37-40

Abstract: The building of Tsiklyansk dam on the Don River made it possible to regulate the drainage of flood water. This led to a reduction in the number of dwelling sites for *Arvicola terrestris*, a small marine rodent, and a decrease in their population. Because of this, the incidence of tularemia declined, and only 25% of the usual number of tularemia cultures were isolated in that territory. However, the flood lands on the Don delta began to be used as fish hatcheries and turned into fields surrounded by banks. This created favorable conditions for rodents' nests and new tularemia foci. An accumulation of small rodents, water rats, and *D. marginatus* ticks was noted in this region. The density of rodents is particularly great when the lands are flooded, and as a result the possibility of a reactivation of the tularemia focus in this area is not excluded. Therefore, special attention should be paid to these territories in conducting a complex program of prophylactic measures for eradication of tularemia foci.

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USSR

UDC 546.711+632.9

~~BADALOVA, E. K.~~ SEMENOVA, L. N., SAIBOVA, M. T., Chemistry Institute of the
Uzbek SSR Academy of Sciences

"Interaction of Manganese Salts with Organophosphorus Insecticides and Fertilizers"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 3, 1972, pp 7-10

Abstract: The methods of differential thermal and X-ray phase analysis were used to investigate manganese compounds formed on introduction of manganese sulfate into liquid urea-formaldehyde ammonium carbonate fertilizer and for interaction of manganese nitrate with organophosphorus insecticides, anthio and rogor. The introduction of manganese sulfate into liquid-urea-formaldehyde fertilizer is inexpedient since manganese converts to the carbonate form which is not assimilated by the plants. In the presence of the organophosphorus insecticide anthio, manganese nitride is precipitated in the form of the mono-sulfate and in the presence of rogor it converts to the oxides.

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USSR

UDC 615.834 (479.24):612.13

BADALOV, G. P., and BADALOVA-BAGIROVA, Z. I., Azerbaydzhan State Medical Institute

"Comparative Changes in Some Hemodynamic Parameters in the Mountain Health Resort of Istisu and in the City of Baku"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 5, 1972, pp 20-24

Abstract: Istisu is a sanatorium situated 2,200 m above sea level that specializes in the treatment of gastrointestinal diseases. Many persons referred to Istisu have concomitant cardiovascular disease and the authors question the desirability of sending such patients to this sanatorium. To determine the indications and contraindications for doing so, they examined 80 persons with functional cardiovascular diseases in Baku before going to the sanatorium and while undergoing treatment there. They concluded that Istisu is contraindicated for those with stage II B or stage III hypertension, chronic coronary insufficiency, and circulatory disorders. However, it is not contraindicated for those with stage I or stage II A hypertension or hypertension as a concomitant disease.

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1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CORRELATION CALCULATION IN AN ORDERING BINARY SOLID SOLUTION -U-

AUTHOR--(02)-BADALYAN, D.A., KHACHATURYAN, A.G. **B**

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(2) 439-47

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SOLID SOLUTION, COPPER GOLD ALLOY, COPPER PLATINUM ALLOY,
CRYSTAL LATTICE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0242

STEP NO--UR/0181/70/012/002/0439/0447

CIRC ACCESSION NO--AP0102293

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0102293

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS PROPOSED TO ACCOUNT FOR THE CORRELATION IN THE EXPRESSION FOR THE FREE ENERGY OF A BINARY ORDERING SOLID SOLN. WITH AN ARBITRARY RADIUS OF INTERAT. INTERACTION. THE METHOD FOR CALCG. THE FREE ENERGY IS BASED, ON ONE HAND, ON THE APPLICATION OF THE THERMODYNAMIC THEORY OF PERTURBATIONS, AND ON THE OTHER, ON THE UTILIZATION OF THE REPRESENTATION OF THE 1 PART PROBABILITY IN THE FORM OF SUPERPOSITION OF STATIC PLANE WAVES, THE AMPLITUDES OF WHICH ARE PROPORTIONAL TO THE PARAMETERS OF THE LONG RANGE ORDER. THIS APPROACH ALLOWS TO FORGO AN A PRIORI SUBDIVISION OF THE LATTICE POINTS OF THE DISORDERED ALLOY INTO "OWN" AND "FOREIGN" FOR GIVEN ATOMS, WHICH ASSUMES THAT THE STRUCTURE OF THE ORDERED ALLOY IS ALREADY KNOWN. AN EXPRESSION WAS OBTAINED FOR FREE ENERGY, ACCOUNTING FOR 4 CORRELATION CORRECTIONS, VALID FOR THE SYSTEMS WITH AN ARBITRARY DISTRIBUTION OF CRYSTAL LATTICE POINTS. AS A RESULT OF THE UTILIZATION OF THE OBTAINED RESULTS FOR THE ANAL. OF ORDERING IN CRYSTALLOGRAPHICALLY DIFFERENT SYSTEMS, AN EQUATION WAS OBTAINED FOR THE PARAMETER OF LONG RANGE ORDER OF THE ALLOY AS SUITABLE FOR THE DESCRIPTION OF ORDERING OF THE TYPES CSCL IN A BODY CENTERED LATTICE, CUPT AND CUAUR IN FACE CENTERED LATTICES, AND AN EQUATION FOR 2 PARAMETERS OF LONG RANGE ORDER, WHICH CHARACTERIZE ORDERING ACCORDING TO THE TYPE FE SUB 3 AL. IN THE LIMITING CASES, WHEN POTENTIALS OF INTERAT. INTERACTION ARE DIFFERENT FROM ZERO IN THE 1ST COORDINATION SPHERE, THE RESULTS OBTAINED ARE REDUCED TO THOSE KNOWN PREVIOUSLY.

UNCLASSIFIED

Acc. Nr.:

B
AP0029113

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 1, pp 72-76.

CHANGED FERMENTATIVE ACTIVITY IN THE MUSCULAR
TISSUE IN PROGRESSIVE MUSCULAR DYSTROPHIA

L. O. Badalyan, E. D. Tamarkina, Ye. S. Bondarenko, L. V. Zakoshchikova

The activity of creatinphosphokinase, lactic de hydrogenase and malatdehydrogenase was studied directly in the affected muscle in 30 patients with different forms of progressive muscular dystrophy. The results of such studies displayed an increased enzymatic activity in the affected muscle and a tendency towards its decrease, as the severity of motor disorders grows. The maximum amount of enzymatic activity was seen during the first years following the appearance of clinical symptoms. In the subsequent periods the anzymatic activity dropped. A study of the normal relatives in such cases also displayed an increased enzymatic activity. The obtained data shows the dependency of the enzymatic activity from the type of hereditary transmission in progressive muscular dystrophy. The highest indices of enzymatic activity were seen in patients with a recessive x-chromosome type of transmission and less high in the autosome-recessive and autosome-dominant type. These results stress the expediency of determining the enzymatic activity in muscular tissues for the diagnostics and prognosis of progressive muscular dystrophy along with other methods of investigation.

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REEL/FRAME

19680624

2 MB

Acc. Nr:

0051937-^B

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol 69, Nr 2, pp 112-114

AMINO ACID COMPOSITION OF MYOSIN AND ACTINE IN THE MUSCLES OF
EXPERIMENTAL ANIMALS WITH HEREDITARY MYOPATHY

L. O. Badalyan, Ye. S. Bondarenko, Ye. I. Gusev, Yu. Ye. Lukouanov, G. G. Revich,
P. A. Temin, Yu. D. Sharets

N. I. Pirogov II Moscow Medical Institute

Amino acid composition of myosin and actine was analyzed in 10 healthy, 12 sick and 12 heterozygous mice of the 129/RE line with hereditary myopathy. Increased leucin with isoleucin, valine, alanine and lowered tyrosine and histidine content was found in the amino acid spectrum of myosin in sick mice. In heterozygous animals higher valine and lowered tyrosine and histidine levels were recorded. In the amino acid composition of actine in the sick and heterozygous mice glycine was up and histidine — down.

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19820420

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Acc. Nr: AP0038025

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1970, Vol 58, Nr 1, pp 37-44

SOME NONLINEAR OPTICAL EFFECTS IN POTASSIUM VAPOUR

Arutvunyan, V. M.; Badalyan, N. N.; Tradyan, V. A.;
Movsesyan, M. Ye.

Some nonlinear effects (dependence of group velocity on intensity, phase modulation, pulse shape distortion, appearance of combined lines due to multiphoton interaction processes) are investigated theoretically near the $4P_{3/2} - 4S_{1/2}$ resonance of the potassium atom. Broadening of the spectral line of the second Stokes component of chloroform stimulated Raman scattering is observed on passage through a cell containing potassium at a saturated vapour pressure of 0.05—1.7 mm Hg. Under the same experimental conditions three-photon and five-photon scattering was observed.

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REEL/FRAME
19731066

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USSR

UDC 634.121.8-52:681.32.06

SADEKOV, R. KH., FURSOV, V. N., ~~BADAMSHIN, O. U.~~

"Methods of Evaluating the Evenness of Motor Vehicle Roads"

Tr. N.-i. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob. promsti (Works of the Scientific Research and Planning and Design Institute of Mechanization and Automation of Production Control in the Motor Vehicle Industry), 1971, vyp. 1, pp 103-107 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A626)

Translation: An instrument is described for measuring the microprofiles of roads and highways. An algorithm which is the basis for the operation of the device is presented. There is 1 illustration and a 1-entry bibliography.

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1/2 006 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF GIBBERELLIN AND THE RETARDANT CCC ON DROUGHT HARDINESS OF
BARLEY -U-
AUTHOR-(02)-BADANOVA, K.A., LEVINA, V.V.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGIYA RASTENIY, 1970, VOL 17, NR 2, PP 568-574

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GIBBERELLIC ACID, CHLORIDE, PLANT GROWTH REGULATOR,
PROTOPLASM, PIGMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1135

STEP NO--UR/0326/70/017/003/0568/0574

CIRC ACCESSION NO--AP0123124

UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123124

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BARLEY PLANTS WERE CULTIVATED FROM DROUGHT HARDENED AND UNHARDENED SEEDS IN VEGETATION EXPERIMENTS (SOIL CULTURE), THE SOIL MOISTURE LYING BETWEEN 40 AND 70PERCENT OF THE TOTAL WATER CAPACITY. THREE LEAF PLANTS WERE SPRAYED THREE TIMES AT INTERVALS OF 7 DAYS WITH A 0.01PERCENT GIBBERELLIN SOLUTION (35 ML PER 10 PLANTS) OR WATERED WITH A 0.5PERCENT CCC SOLUTION (100 MIL OF CHLOROCHOLINCHLORIDE PER KILOGRAM SOIL). THE GROWTH AND DEVELOPMENT, WATER CONTENT AND VISCOSITY OF PROTOPLASM, PIGMENT CONTENT, HEAT RESISTANCE AND GRAIN YIELD WERE STUDIED. IRRESPECTIVE OF WATER SUPPLY OF THE PLANTS, GIBBERELLIN STIMULATED GROWTH AND ACCELERATED DEVELOPMENT OF THE PLANTS; THE RETARDANT EXERTED AN OPPOSITE EFFECT. GIBBERELLIN LOWERS THE AMOUNT OF PLASTIDS IN THE CELLS AND ALSO THE PIGMENT CONTENT. THE WATER CONTENT OF THE CELLS AND PROTOPLASM VISCOSITY DID NOT CHANGE. THE RETARDANT INCREASED THE NUMBER OF PLASTIDS IN THE CELLS AND THE PIGMENT CONTENT AND AMOUNT OF BOUND WATER BUT LOWERED THE PROTOPLASM VISCOSITY. THE CCC RETARDANT ALSO SLIGHTLY INCREASED THE DROUGHT RESISTANCE, WHEREAS GIBBERELLIN LOWERED THE HEAT AND DROUGHT RESISTANCE OF THE PLANTS. FACILITY: K. A. TIMIRIAZEV INSTITUTE OF PLANT PHYSIOLOGY, USSR ACADEMY OF SCIENCES, MOSCOW.

UNCLASSIFIED

USSR

UDC: 911.3.616.927(575.1)

CHICHENIN, P. I., PULATOV, Ya. G., YUSUPOV, K. Yu., LI GVARENHVA, V. T., BADANOVA, L. A., KOVALEVA, F. S.

"The Prevalence of Typhoid-Paratyphoid Infections and the Means for Eradicating them in the Uzbek SSR"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektzionistov. Tezisy dokl. Ch. I (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists and Specialists in Infectious Diseases, Reports of Theses, Part I--collection of works) Moscow, 1970, pp 279 (from RZh-36. Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.250)

/No Abstract/

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Acc. Nr:

AP0053432

Abstracting Service:

CHEMICAL ABST.

5-70

Ref. Code:

4R0366

B

110738r Addition of trichloroacetonitrile and trichloroacet-
amide to conjugated enynes and dienes. Badanyan, Sh. O.;
Sarkisyan, K. L.; Gevorkyan, A. A. (Inst. Org. Khim., Erevan,
USSR). *Zh. Org. Khim.* 1970, 6(2), 397 (Russ). The addn. of
Cl₃CCN to H₂C:CMcC:CH gave HCCl:C:CMcCH₂CCl₂CN.
The addn. of Cl₃CCN or Cl₃CCONH₂ to H₂C:CMcCH:CH₂
gave ClCH₂CH:CMcCH₂CCl₂X (X is CN or CONH₂). CPJR

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REEL/FRA
19830457

7

1/2 010 UNCLASSIFIED PROCESSING DATE--2300170
TITLE--VINYLACETYLENE CHEMISTRY. LXXXVII. ACETYLENE, ALLENE, CUMULENE
REARRANGEMENT DURING THE REPLACEMENT OF CHLORINE BY AMINES IN
AUTHOR--(03)--VARTANYAN, S.A., BARKHUDARYAN, M.R., BADANYAN, SH.O.
COUNTRY OF INFO--USSR
SOURCE--ARM. KHIM. ZH. 1970, 23(1), 31-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ACETYLENE, ALLENE, CHLORINE, AMINE, HALOGENATED ORGANIC
COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1446 STEP NO--UR/0426/70/023/001/0031/0037
CIRC ACCESSION NO--AP0116887
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116887

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. (COMP. PREPD. BY VARIOUS

TREATMENTS SHOWN ON MICROFICHE).

FACILITY: INST. ORG. KHIM.,

EREVAN, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ALKYLATION OF PHENOLS AND THEIR ETHERS BY ISOPROPENYL ACETYLENIC
ALCOHOLS, CHLORIDES, AND DIVINYL KETONES -U-
AUTHOR--(03)--VARTANYAN, S.A., VARDAPTEYAN, S.K., BADANYAN, SH.O.
COUNTRY OF INFO--USSR
SOURCE--ARM. KHIM. ZH. 1970, 23(1), 85-8
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ALKYLATION, PHENOL, ETHER, ACETYLENE, CHLORIDE, KETONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1995/1454 STEP NO--UR/0426/70/023/001/0085/0038
CIRC ACCESSION NO--AP0116891
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0116891
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A MIXT. OF 0.1 MOLE OF A PHENOL
AND 5 ML H SUB3 PO SUB4 WAS ADDED DROPWISE 0.1 MOLE
DIALKYLISOPROPENYLETHYNYLCARBINOL, AND THE MIXT. HEATED 30 HR AT
60-70DEGREES TO GIVE 2,1,R PRIME1 (RO) C SUB6 H SUB3 CR PRIME2 R PRIME3
C TRIPLE BOND CC ME:CH SUB2,4 (R, R PRIME1, R PRIME2, R PRIME3, PERCENT
YIELD, B.P. (MM), N PRIME20 SUBD AND D PRIME20 GIVEN): (SHOWN ON
MICROFICHE). FACILITY: INST. ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

UDC 619:576.809.518:576.858.2

USSR

BADAYEV, F. A., CHEVELEV, S. F., MITIN, N. I., ARKHIPOV, N. I., and
PERSHIN, G. N., All-Union Scientific Research Institute of Veterinary
Virology and Microbiology and All-Union Scientific Research Chemico-
Pharmaceutical Institute

"The Antivirus Activity of Synthetic Compounds"

Moscow, Veterinariya, No 6, Jun 73, pp 44-46

Abstract: Indolyl-3-propiohydroxamic acid (1), indolyl-3-acetohydroxamic acid (2), 2,4,6-trichlororesorcinol (3), 2,4,6-trichlorophloroglucinol (4), 2,4,6-tribromophloroglucinol (5), N-(o-tolyl)-N-cyanoethylaminobenzoquinone (6), tetrahydrotetraoxonaphthalene dihydrate (oxolin) (7), beta-indolyl-propionic acid (8), and beta-indolylbutyric acid (9) inhibited to 98.4% of more the propagation of the virus of Aujeszky's disease in a cell culture. The prophylactic and therapeutic activities of (1), (2), (3), and (7) and the prophylactic activity of (4), (5), (6), (7), and (8) in connection with the experimental infection of rabbits with the virus were studied. A prophylactic activity was exhibited by (1), (3), and (8): 16.6-40% of the infected rabbits that had been treated with these compounds survived, whereas all of

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USSR

BADAYEV, F. A., et al., Veterinariya, No 6, Jun 73, pp 44-46

the controls died. A slight therapeutic effect was exerted by (2) and (6): the rabbits treated with (2) died 7 days later than controls, while one out of three animals treated with (7) survived. (1), (3), and (8) were also tested in connection with experiments in which sheep were infected with Aujeszky's disease. These compounds had a slight therapeutic effect on the sheep.

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USSR

UDC: 669.298'296'822

BADAYEVA, T. A. and KUZNETSOVA, R. I., Moscow

"Solidus and Liquidus Surfaces of the Thorium-Zirconium-Uranium System"

Moscow, Izvestiya Akademii nauk SSSR, Metally, No 1, Jan-Feb 72, pp 196-200

Abstract: The experimental materials for the study of solidus and liquidus surfaces were: thorium (99.5%), uranium (99.79%) and zirconium iodide (99.72%). The alloys of these elements were produced by direct fusion in an arc furnace with a tungsten electrode and a copper crucible in a chemically pure argon atmosphere. The study was conducted by thermal analysis methods with recording the differential heating curves of specimens as annealed followed by microstructural examinations. The results of temperature determinations of both solidus and liquidus in the Th-Zr-U-ternary system are shown in the form of isotherms of liquidus and solidus surfaces. The liquidus and solidus curves are specifically defined in Th-U and Th-Zr binary systems within concentration ranges of 20 to 70 at.% U and Zr, respectively. Compositions and thermal analytical data on Th-U, Th-Zr and Th-Zr-U alloys are cited in the table. (3 illustrations, 1 table, 4 bibliographic references).

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USSR

UDC: 8.74

BADENKO, L. A., IVANOVA, L. V., KALININ, O. M., KACHURIN, A. L., KOLO-
DYAZHNYI, S. F.

"Analysis of the Motion of Aggregates of Cells in a Fresh-Water Sponge"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works),
vyp. 25, Moscow, "Nauka", 1972, pp 119-127 (from RZh-Kibernetika, No 6, Jun
72, Abstract No 6V599)

Translation: An attempt is made to find estimates of the principal param-
eters of cell motions on the basis of mathematical processing of individual
trajectories of finite aggregates in a fresh-water sponge. Authors' ab-
stract.

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USSR

SHCHELKUNOVA, S. A., DENCHEV, D. D., BADENKO, L. A., and SEMENOV, R. I.,
Leningrad State University imeni A. A. Zhdanov and Physicotechnical Institute,
Academy of Sciences USSR, Leningrad

"The Effect of Magnetic Fields on Escherichia coli K-12"

Moscow, Biofizika, Vol 15, No 4, Jul/Aug 70, pp 665-669

Abstract: Exposure of E. coli K-12 to permanent and pulsed magnetic fields (5,000 oe for 2 to 6 hours had no effect on reproduction of microorganisms. Exposure to a stronger permanent field (32,000 oe for 2 hours temporarily inhibited bacterial reproduction on meat-peptone agar, but during the next 2 hours the number of cells in the experiment was the same as in controls. Two hypotheses are advanced to account for this phenomenon: (i) some of the cells died while the surviving "magnetism-resistant" cells continued to multiply; (ii) all of the cells survived, but some of them lost their ability to divide when transferred to a solid nutrient medium. Oxygen uptake by the cells in the presence of glucose was somewhat impaired by 2 hours' exposure to magnetic fields. The effect was most pronounced after exposure to the pulsed magnetic field.

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USSR

UDC 548.31

BADILENKO, N. A. NOVIKOV, N. N., and KHIENKO, M. V., Kiev State University
imeni T. G. Shevchenko

"Dislocation Mobility in Germanium"

Kiev, Metallofizika, No 39, 1972, pp 43-51

Abstract: The mobility of dislocations in pure germanium and germanium alloy with antimony was investigated over a wide interval of temperatures and stresses. Special attention was given to the study of dislocation mobility at low temperatures (150-200°C) and high stresses (10-20 kg/mm²). The obtained results were interpreted on the basis of available theoretical models. 5 tables, 9 figures, 28 bibliographic references.

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USSR

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UDC 614.73

BAD'IN, V. I., SAYAPINA, R. Ya., ALFEROV, M. V., and NOVIKOV, V. I., Moscow

"The Problem of Evaluation of Radiation Hazards from Nonequilibrium Emissions"

Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 51-54

Abstract: A method is proposed for assessing the amount of radiation absorbed by lung tissue under nonequilibrium conditions of the daughter products of emission disintegration. The method greatly simplifies and shortens the monitoring process. It is based on the fact that the maximum permissible concentration of nonequilibrium emissions is equal to the ratio of the balanced maximum permissible concentration to the degree of equilibrium of the second decay product (RaB, TnB, AcB). Under industrial conditions, the degree of equilibrium of the daughter products of emissions varies as a function of the number of times the area is ventilated.

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1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ANTICOMPLEMENTARY ACTIVITY OF GAMMA AND POLYGLOBULIN PREPARATIONS
-U-

AUTHOR--(02)-TUKACHINSKIY, S.YE., BADINA, V.M. *B*

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,
PP 95-98

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GAMMA GLOBULIN, IMMUNOLOGY

CONTROL MARKING--RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FILE/FRAME--1988/1510

STEP NO--UR/0016/70/000/003/0095/0098

CIRC ACCESSION NO--AP0105272

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0105272

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE ANTICOMPLEMENTARY ACTIVITY OF GAMMA GLOBULIN AND OF COMBINED IMMUNOGLOBULIN PREPARATION, SERUM POLYGLOBULIN, CONTAINING TRANSFERRIN, IN RELATION TO THE PERIODS OF PRESERVATION. THE AMOUNT OF GAMMA GLOBULIN REQUIRED FOR INACTIVATION OF TWO WORKING DOSES OF THE COMPLEMENT WAS 0.04 MG, AND OF POLYGLOBULIN, 5 TO 60 MG, I.E. ANTICOMPLEMENTARY ACTIVITY OF GAMMA GLOBULIN WAS 60 TO 125 TIMES GREATER THAN SUCH OF SERUM POLYGLOBULIN. ANTOCOMPLIMENTARY ACTIVITY OF GAMMA GLOBULIN DURING THE FIRST 3 YEARS OF STORAGE CHANGES BUT LITTLE; LATER IT FALLED CONSIDERABLY. NO ALTERATION OF ANTICOMPLEMENTARY ACTIVITY WERE NOTED IN STORAGE OF SERUM POLYGLOBULIN.

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129672

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF DIFFUSION CREEP AT TEMP. JUST BELOW THE M.P. WERE STUDIED IN THREE AL ALLOYS CONTG. BETWEEN 10 PRIME NEGATIVE5 AND 10 PRIME NEGATIVE2 PERCENT OF IMPURITIES. WHEN THE DISLOCATION DENSITY AND LINEAR BLOCK SIZE WERE CONTROLLED BY THE IMPURITIES, THE NABARRO HERRING RELATIONSHIP WAS NO LONGER SATISFIED; THE CREEP RATE FELL WITH INCREASING BLOCK SIZE. POSSIBLE REASONS FOR THIS EFFECT ARE DISCUSSED. IN THIS RESPECT A MAJOR INFLUENCE IS APPARENTLY EXERTED BY AN EXCESS OF INSOLUBLE FE ATOMS APPEARING ALONG THE BLOCK BOUNDARIES.

UNCLASSIFIED

USSR

PIRES, B. YA., and BADIYAN, YE. YE., Fizika Metallov i Metallovedeniye, Vol 20, No 4, Apr 70, pp 647-656

deviation from the Navarro-Herrin function. The creep rate of an alloy should be less on the strength of a nonuniform partial diffusion component, attracting the advent of a concentration discontinuity, which leads to the appearance of a vacancy concentration gradient of the opposite sign in comparison with the responding directed self-diffusion from the action of applied stresses.

Moreover, insoluble impurities enter primarily into the cell and grain boundaries and if they increase the resistance to slip into the boundaries, then the advancing alignment of stresses lowers normal stresses in the grain body (cells), which also causes a lowering of creep rate. Quantitative evaluations showed that for aluminum with impurities (especially with Fe impurities) the latter effect had special significance.

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USSR

UDC 669.71:669.3:539.374

B
PINES, B. YA., BADIYAN, YE. YE., and SIRENKO, A. F., Khar'kov State University
imeni A. M. Gor'kiy

"Changes in the Substructure of Copper and Aluminum at High Temperature Creep"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 6, Jun 70, pp 1235-1241

Abstract: Results are presented of an investigation of the substructure of single and polycrystalline specimens of copper and aluminum and its changes in the process of high temperature creep. X-ray and chemical pickling methods were used. It is shown that the change in substructure characteristics (average size of blocks and disorientation) takes place mainly at the unsteady creep stage. The possible atomic mechanism of the formation of the substructure under conditions of diffusion creep is considered.

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1/3 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--PROCESSING OF STILL RESIDUES OF FURFURAL PRODUCTION -U-
AUTHOR--~~BA~~DOVSKAYA, L.A., KULNEVICH, V.G., FIRSOVA, L.I., SHAPIRO, YU.M.,
KURZIN, M.I.
COUNTRY OF INFO--USSR
SOURCE--GIDROLIZ. LESOKHIM. PROM. 1970, 23(2) 23-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FURFURAL, FURAN, PEROXIDE, POLAROGRAPHY, GAS CHROMATOGRAPHY,
UV SPECTRUM, SUCCINIC ACID, MALEIC ACID, FUMARIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/0147 STEP NO--UR/0328/70/023/002/0023/0025
CIRC ACCESSION NO--AP0106809
UNCLASSIFIED

2/3 017

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106809

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 2 METHODS PRESENTLY USED FOR PROCESSING RESIDUES FROM FURFURAL RECTIFICATION ARE THE RECOVERY OF FURFURAL (I) AND METHYLFURFURAL (II) AND DECARBONYLATION TO SYLVAN (ALPHA MEHTYL-FURAN). THE METHOD PROPOSED CONSISTS IN OXIDN. OF THE RESIDUES WITH H SUB2 O SUB2 TO YIELD ORG. ACIDS. ALSO DEVELOPED WAS A NEW METHOD FOR CHEM. ANAL. OF THE RESIDUE, BETTER SUITED FOR INDUSTRIAL CONTROL THAN EITHER POLAROGRAPHY OR GAS CHROMATOGRAPHY. THE METHOD, WHICH HAS BEEN DESCRIBED ELSEWHERE (SHAPIRO AND KUL'NEVICH, 1969), IS BASED ON UV. SPECTROMETRY AND CALCNS. OF I CONCN. FROM THAT OF A STD. SOLN. AND THE OPTICAL DS. OF THE TEST SAMPLE AND THE STD. SOLN. THE AMT. OF IMPURITIES ARE DETD. FROM DIFFERENTIAL SPECTRA. THE ACCURATE METHOD MAKES POSSIBLE SEP. I AND II DETNS. EVEN IN STRONGLY RESINIFIED MATERIAL. COM. RESIDUES ANALYZED CONTAINED 22-95PERCENT FURALDEHYDES, DEPENDING ON THE RAW MATERIAL AND THE I PRODN. METHOD. THEY WERE OXIDIZED WITH 30PERCENT H SUB2 O SUB2 AT A MOLAR RATIO OF FURALDEHYDES-H SUB2 O SUB2 OF 1:3, A TEMP. OF 64 PLUS OR MINUS 1DEGREE, WITH INTENSE MIXING FOR 4 HR. THE QUAL. AND QUANT. COMPN. OF THE OXIDN. PRODUCTS WERE ANALYZED BY PAPER, COLUMN, AND THIN LAYER CHROMATOGRAPHY. OXIDN. CONVERTED I TO A MIXT. OF CRYST. ACIDS (MALEIC, FUMARIC, AND SUCCINIC). II WAS CONVERTED TO BETA ACETYLACRYLIC (III) AND LEVULINIC ACID (IV). THE RESIDUAL PEROXIDES WERE DECOMPD. BY TREATMENT WITH THIUREA (1PERCENT BASED ON THE VOL. OF REACTION PRODUCTS). THE CRYST. ACIDS WERE SEPD. BY RECRYSTN. FROM HOT WATER, AND IV BY DISTN. (70DEGREES-5 MM). IV IS RECOVERED BY EVAPN. OF THE SOLVENT AFTER EXTN.

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